UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,017	09/07/2000	Louis F Aprigliano	82627	2288

7590 07/30/2002

Office of Counsel Code 004
Naval Surface Warfare Center
Carderock Division
9500 MacArthur Boulevard
West Bethesda, MD 20817-5700

EXAMINER	
LIN, KUANG Y	

ART UNIT	PAPER NUMBER
1725	20

DATE MAILED: 07/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/656,017	Applicant(s) APRIGLIANO ET AL.	
	Examiner Kuang Y. Lin	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is suggest to make the following changes to render the meaning definite: In line 4, "; a base metal" shall be changed to – and a base metal --; same line, "an inert cover gas selected" to -- selecting an inert cover gas --

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamori et al and further in view of either Combs or Jenkins et al for the same reasons as set forth in the last office action.

Namely, Nakamori et al substantially show the invention as claimed except that they use the low pressure plasma spraying technique instead of gas spraying technique for atomizing the alloy during coating process. However, Combs and Jenkins et al shows that it is conventional to use the gas spray technique for atomizing the alloy. The gas spraying technique of the Combs and Jenkins et al has an advantage of forming a uniform protective coating on a substrate. In view of the prior art teaching as a whole, to use gas spraying technique for atomizing the alloy in the coating process of Nakamori et al in deemed to be nothing more than a personal preference since Jenkins et al show that it is conventional to use either a low pressure plasma spraying technique or a gas spraying technique for atomizing and depositing an alloy onto a substrate surface for forming a coating. With respect to the claimed feature of use nitrogen to cover the molten alloy, since both Combs and Nakamori etal show to use nitrogen gas for atomizing the same, it would have been obvious to also use the nitrogen gas as a cover gas for preventing the molten alloy from oxidizing.

5. Claims 1-3, and 5-9 are also rejected under 35 U.S.C. 103(a) as being unpatentable over either Combs or Jenkins et al and further in view of either Nakamori et al or Shaw or JP 63-33,594 for the same reasons as set forth in the last office action.

Namely, each of the primary references shows a gas spraying technique to deposit a molten metal onto a substrate to form a protective layer. The gas spraying technique of the primary references has an advantage of forming a uniform protective coating on a substrate. Each of the secondary references

shows that Ni-Cr alloy displays excellent corrosion resistant property. In view of the prior art teachings as a whole, it would have been obvious to spray the alloy of secondary references in the process of primary references to form a corrosion protective coating on an article which is to used in a corrosive environment. With respect to the claimed feature of using nitrogen to cover the molten alloy, since both Nakamori et al and Combs show to use nitrogen gas for atomizing the molten alloy, it would have been obvious to also use nitrogen gas to cover and thus to prevent the molten alloy to be spray from oxidizing.

6. Applicant's arguments filed July 11, 2002 have been fully considered but they are not persuasive.

Applicants stated that the prior art references failed to explicitly suggest, teach or motivate selection of a cover gas to increase strength of a ductile corrosion-resisting type alloy being cast onto a surface. However, Combs show to use nitrogen gas to spray the molten metal. By using the technique of Combs for atomizing the Ni-Cr alloy of either Nakamori et al, Shaw or JP 63-33,594 and depositing the same on a substrate surface, the grain size of the deposited alloy is smaller than that of an as cast Ni-Cr alloy. Thus, the ductility and the strength of the atomized and deposited Ni-Cr alloy will be higher than that of the conventional as cast Ni-Cr alloy.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 703-308-2322. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas X Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7719 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

***

July 26, 2002

KUANG Y. LIN
EXAMINER
GROUP 320
1725